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The Diversity of Students in Korean Junior Colleges and Implications for Education

Seung-Il Na^{a,*}, Young-Mi Seok^a, Hee-Jin Seong^a^a*Seoul National University, San 56-1 Shilim-dong, Gwanak-gu, Seoul 151-921, South Korea*

Abstract

The purpose of this paper was to describe the diversity of learners within the Korean community colleges. Students were mostly from the Seoul metropolitan city and the Gyeonggi Province areas, and foreign students were mostly from China. The results show that college students' learning styles were mainly of diverger and accommodator types. Seventy percent of the students planned to gain employments after graduation. The diversity of students was not a big issue in the college teaching and learning situations, but the college-level support for teaching and learning existed. The results point to some suggestions for the education of various learners.

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Keywords: Learner diversity; Diverse learner; Teaching and learning; Korean junior college; Community college

1. Introduction

1.1. Needs for the Study

In 1979, Korea unified existing junior colleges and vocational schools into junior colleges. Expanding in both quality and quantity, they are now the 35.3% of the institutions of higher education, running 145 institutions in total. (Korean Council for University college education, 2010) and hold 495,718 students. Their educational purposes are studying and teaching the professional knowledge and theories about each field of society, improving abilities and finally cultivating professionals to serve the society and the country (Article 47, Higher Education Act), for which, junior colleges have not only kept improving their educational quality by offering customized educational program and cooperating between colleges and industries but met the national demands for human resources (Yoon et al., 2005). Recently, various educational purposes and functions of junior colleges have started to be emphasized except training technical professionals (Jung et al., 2001), which resulted from the changes in milieu around – the easier open admission policy taken up by them and the social demands that they should be in charge of lifelong education and adult education in the lifelong study society (Moon et al., 2001).

*Corresponding author. Tel. +82-2-880-4833, 4830, 4844; +82-16-506-1392; Fax: +82-2-833-2042
E-mail address: silna@snu.ac.kr

These environmental changes increase the ratio of the students who have jobs or are over age of traditional college students (Kim, 2004), which means that the learner diversity of junior colleges is gradually increasing.

In the U.S., this situation has become an issue regarding races, ethnic groups, gender, nationality, and social-economical position. They especially concentrate on the older students who have jobs and support their family, for whom to keep and finish their study, the U.S. makes a various effort in both institutional and learning-teaching perspectives as well as raising their accessibility by maintaining the open admission policy (Santangelo & Tomlinson, 2009).

Likewise, in Korea, as the rate of students with diverse characteristics is going up in junior colleges, the plans to satisfy the individual's educational demands are under discussion (Moon et al., 2001; Jeong et al., 2001). However, the studies have their limitation that they stay on the measures to support the students with poor learning ability or in older age without a concrete analysis of the learner diversity in junior colleges. This study, ergo, tries to examine to what extent and from what parts the learner diversity occurs in junior colleges, which will verify the level of the learner diversity in junior colleges and provide the empirical grounds to fulfill the educational demands of each of the diverse learners.

1.2. Purpose of the Study

The purpose of this study was to describe the present condition of the learner diversity in Korean junior colleges and to draw implications for education. The specific objectives were addressed as the followings: To explore the concept and the research trends of the learner diversity, to analyze the present condition of the learner diversity in junior colleges, and to derive educational implications of the learner diversity in junior colleges

1.3. Methods

Analyzing literature was used to achieve the goal of this study. First of all, to explore the concept and the research trends of the learner diversity, we searched for domestic and foreign dissertations by keywords such as learner diversity, classroom diversification, individualized learning, individualized instruction, and etc. As to the concept of the learner diversity, we focused on the developmental process of the diversity concept, and we also reviewed papers to deal with the development, application, and the effect of the teaching and learning strategies considering the learner diversity. We reviewed the learner diversity by referring to surveys, theses, and journal papers of which subjects are the actual learners in junior colleges.

1.4. Limitations of the Study

In this study, the present condition of the learner diversity is based on the surveys, theses, and journal papers of which subjects were the actual learners in junior colleges and the materials from the Web or the literature. As a result, some findings based on a specific college cannot be generalized.

2. Theoretical Framework

2.1. The concept of learner diversity

The learner diversity refers to the overall similarity and difference among the learners in the specific condition given to them (CEELD, 2010). It began to be considered in order to suggest the effective teaching and learning alternatives for the students with poor scholastic aptitude due to the difference of the cultural factors, such as ethnic groups, gender, language, capability, and special needs (Smith, Ewing, & Le Cornu, 2007). This is because the word 'diversity' originated from the attention to minor ethnic groups and cultures in the countries like the U.S. and Australia which contains mixed ones.

However, the concept of learner diversity has expanded to the extent to consider learning style, learning ability, learning demand, personality, and furthermore, life style of an individual learner beyond culture, ethnicity, language, and religion. For example, CEELD (2010) claimed that the conditions causing learner diversity should include learning style and educational background besides culture, ethnicity, religion, gender, age, and disability. Lopez (2007), focusing on the learning process, redefined the concept of the learner diversity as 'the difference among students in the styles to attain certain learning demands, knowledge and skills'. Likewise, Dimitrova, Sadler, Hatzipanagos and Murphy (2003) expanded the concept, mentioning that the learner diversity appears owing to acquired knowledge, learning style, learning approach; motivation and expectation; social context of education and individual life style beyond ethnicity, gender, religion, disability, culture, and community.

In learning situations, an individual difference is similar to learner diversity. Individual learners are differentiated by their learning characteristics and thinking processes. Relating to learning situation, differences in individual learners are considered from aspects like intelligence, primary mental abilities, cognitive controls, cognitive styles, learning style, personality, prior knowledge, and etc (Jonassen & Grabowski, 1993).

2.2. The research trends of the learning and teaching strategies concerned with learner diversity

In mid 90's, the idea that we concentrate on learners in teaching and learning process was introduced to Korea and only realized in the theoretical and academic levels (Kang, Choi, & Chang, 2007). However, along with the growing concern for the quality of education, learner-centered education was attracting more attention than the teacher-centered one (Choi, 2004), and learner diversity and individual difference started to be issued. Later, previous, domestic studies on learner diversity have been performed, focusing on individual difference according to teaching - learning variables and learners' variables (Yoon, 2008). Especially, studies on both learners' variables associated, such as their learning motivation, and teaching-learning variables, such as teaching strategies and teaching styles, were mainly done.

In regard to teaching-learning variables, the learners show their diversity in gender, culture, experiences, attitude, interest, and specific teaching style. Learner diversity arises from numerous factors, such as intelligence, aptitude, learning strategy, learning style, achievement motivation, ambition, attention, interest, self-effectiveness, self-control, and etc. It is known that effective learning occurs only when the educational contents reflecting learners' interest and attention, the learning methods matched to those preferred by learners, the assignments adjusted to the individual learning ability and the outcome harmonized with learner' personality are systematically planned and performed (Lee, Kwon, & Oh, 2008). For instance, the study of Santangelo and Tomlinson (2009), applying the teaching and learning strategies considering learner diversity in higher education, proved that all the 25 learners showed positive reactions to the teaching and learning strategies in applicable classes and recognized that their learning achievements were enhanced by those strategies and the teaching quality had positive influence on their learning.

Theoretically, the teaching-learning concept can be divided into the following two: First, the individualized learning (or individualistic learning) is the learning performance tuned to individual learner's pace and rewarded independently from the results of other learners. On the other hand, the individualized instruction means the prescriptive individualized instruction that concentrates on individual learners and provides teachers or programs with proper teaching methods, process, and selection of teaching materials considering individual ability, aptitude, and motivation, in order to encourage every one of them possible to reach their own goals (Park, 2008).

The learning characteristics which should be considered in the individualized instruction are individual learning style (i.e. Kolb's learning style), learning interest or preferred topics, teaching style (i.e. direct teaching or experience study), learning pace, problem-solving style, level of acquired knowledge, and etc. (Park, 2008). The individualized instruction considering these factors cannot help making a learner-centered education. At this point, the individualized instruction obtains characteristics, such as self-reaffirmation, self-planning, self-initiation, self-selection, self-pacing, self-tuition, and self-evaluation (Ko, 1998).

The researchers who suggested the concrete strategies of the individualized instruction were Jonassen and Grabowski (1993). They propose the strategies considering the learner diversity in the learning characteristic dimension, which are the following four taxonomies: 1. Contextualizing instruction, 2. Providing learner control of instruction, 3. Learning organization: Structured cues to context, 4. Assessing learning. In other words, the individualized instruction encourages the learners to get sincerely interested in learning contents, to realize their own learning level, and to gain control of learning with the consistent help by teachers driving them to their own goals.

Throughout the individualized instruction process, the most important requirement is the teachers' capability (Lopez, 2007). It is based on the assumption that teachers with proper competence, classroom management skills, teaching strategies, teaching methods, and teaching plans should assign resources to meet the need of each student and fulfill his/her educational needs. Teachers in the individualized instruction process play many-sided roles as a leader and mentor other than the role of knowledge-conveyer in the traditional one (Keefe & Jenkins, 2008).

3. The Present Condition of the Learner Diversity in Junior Colleges

3.1. Diversity in age

In junior colleges, learners have diverse educational backgrounds and learners' groups of a different nature appear which is because they have diverse admission policies in selecting new students (Kim, 2010). Junior colleges

select their students by general selection, special selection, and supernumerary selection. The variety of the student selection which requires different educational backgrounds and needs promotes the tendency to increase the learner diversity in junior colleges (Moon, Oh, Jung, Choi, Kim, & Lim, 2005). For example, students chosen by general selection have higher learning ability but poor learning attitude. On the other hand, those selected by special selection show lower learning ability. Learners recommended by companies are highly studious. According to the Educational Index of Junior Colleges in South Korea (Korean Council for University College Education, 2007; 2008; 2009), learners in junior colleges had decreased in number from 766,952(2007) to 745,069 (2009) but learners selected by supernumerary special screening had been increasing from 28,447 (2007) to 39,583 (2009), which implies that learners having diverse backgrounds such as overseas residents, students from rural areas, special-education students and graduates from colleges or universities have an increasing tendency.

The diverse selections and the increasing openness relate to the diversity in age of learners. Thru the diverse entrance systems, the junior colleges absorb students of various ages. In detail, the ratio of the traditional learners from 19 to 25 years of age has diminished from 89.96% (290,981 among 323,825 in number) in 1990 to 66.79% (508,206 among 760,929) in 2009. On the other hand, that of the learners over 26 years has increased from 1.97% (6,381 in number) in 1990 to 13.35% (101,407) in 2009 (Korean Council for College Education, 2009).

3.2. Diversity in gender

Along with the popularization and generalization of college education and the increasing tendency of highly educated people, the college entrance rate of females is getting higher. Female students have lower self-esteem, need more of a sense of closeness to professors and seniors, get less satisfied with campus lives, have less information intelligence and less ambition in employment and higher education compared to those of males (Moon, 2005). From 1990 to 2009, the gender ratio of junior college had been fairly balanced but there appears a little increasing tendency of female students in junior colleges. Minutely, in junior colleges, the ratio of female students has slightly increased from 36.85% (119,345 among 323,828 in number) in 1990 to 39.61% (301,395 among 760,929) (Educational Statistic Service, 2009).

Female ratio by departments between 1990 and 2009 shows that female ration differs by departments. In case of liberal arts, the ratio maintained itself, 3.2% in 1990 to 5.3% in 2009. Social science and art department had revealed the increase in female ratio. In social science, 21.6% in 1990 grew to 31.3% in 2009, and in arts, 15.2% in 1990 to 20.9% in 2009. On the other hand, education, natural science, engineering, and medicine departments had decreasing ratio for female students. In case of education, female ratio of 11.6% in 1990 fell to 9.1% in 2009, 14.4% in 1990 to 6.6% in 2009 in natural science, 10.9% of 1990 dropped to 7.0% in engineering, and 21.8% in 1990 to 18.9 in 2009 in medicine department. Tendency of this decrease revealed that female rate dropped particularly in science and engineering departments, such as natural science, engineering, and medicine. This also suggests that selection of major could vary according to gender and especially, possibilities of female students avoiding science and engineering departments.

3.3. Diversity in region or nationality

According to a statistical research on regional origin of enrolled students at junior college (Korean Council for University College Education, 2009), students from Gyeonggi had the biggest ratio of 29.67% in 2009. To observe by age group, among traditional learner group of ages 18-23 learners from Gyeonggi had the highest ratio of 29.67%, and non-traditional learner group of ages over 30 had its largest ratio of learners from Honam (28.19%) and Yeongnam (22.56). This is partly related to the fact that Gyeonggi Province has larger population of school age students which belongs to traditional learner group, but Seoul or Gyeonggi Province has more opportunities to have other education(ex. 4-year-course colleges) while in Honam and Yeongnam junior colleges have relatively greater role as life-long education institutions in regional society.

Meanwhile, there is a tendency of increasing international students in junior colleges recently. The number increased from 2,519 students in 2005 to 5,552 in 2009. 80% of these international students were from China or Chinese-Korean living in China (Korean Council for University College Education, 2009)

3.4. Diversity in household income

According to the result from a research by Lee et al. (2007), on household income subjecting 173,192 students in first year in junior college, 55% of junior college learner was poor householders with low household income. In addition, the ratio of poor householders revealed higher rate in learners from provinces, with Jeju (67%), Gwangju (63%), Chungcheong (61%), or Daejeon (60%).

3.5. *Diversity in learning style*

Learning and teaching variables treated in individualized teaching are learning style and motivation of learners (Yoon, 2008). Hwang (2001) studied learning style of 761 junior college learners by using Kolb's learning style tools. The result showed 39.03% dispersers, 30.35% adapters, 23.78% blenders, and 6.83% collectors.

3.6. *Diversity in work experience*

According to Santangelo and Tomlinson (2009), learner diversity in higher education needs to consider diverse personal circumstances, along with learner's learning style, motivation and level of preparatory learning. Santangelo and Tomlinson's 'diverse personal circumstances' means job background translated in aspects of advanced knowledge. In relation to this, Byon et al. (2009), studied actual conditions of career guidance to identify the rate of junior college learners with actual career experience, subjecting 24,818 junior college learners. The result showed that 29.5% of learners had career experience, 56.3% without career experience, and 14.2% had no answer.

3.7. *Diversity in career plan*

Junior college learners' career plan after graduation, as well as the existence of work experience, could possibly influence learning conditions. Result from a research by Byon et al., shows 76.0% of junior college learners have plans to get a job right after graduation, and 20.0% plans to go on with their studies, and 3.6% didn't have any career plan.

4. **Learner Diversity Related Learning and Teaching Conditions in Junior Colleges and Implications**

4.1. *Learning and teaching conditions in junior colleges*

Prior studies generally have a positive position towards the necessity for learning and teaching strategies and methods according to various individual needs and characteristics, such as individualized teaching or learning. On Ko (1998) studied teaching and learning methods by individual learner's ability subjecting 160 college students, the result showed, although it's not statistically verified, that experimental group which had been applied a learning and teaching method that corresponded to individual learning ability had consistently improving academic achievement compared to comparison group. Furthermore, experimental group appropriate learning activity that suits their style and ability to reach academic goal and given tasks, and started to build self-directed learning skills. Another research on 222 junior college students (Shin, 2001), discovered that variables 'student consideration and aid', which has to do with embracing student opinions, 'class interest', related to stimulating student's intellectual curiosity or interesting class proceedings, and 'class dynamics', meaning the use of diverse media, activity or references, had overall effect on lecture that learners recognized and there were static correlations among them. This indicates that the level of the reflection of individual idea or characteristics to learning and teaching situation the learner feels, class interest, and application of various media and methods have a connection to class effect which learners recognize.

It is a significantly treated issue to apply diverse learner's characteristics and needs to learning and teaching condition, but it seems that in case of the professors, the ones with most important role, it is not the case. According to Kim (2010)'s study on teaching behavior level that targeted 760 junior college teachers, general teaching behavior level of junior college teachers was 4.05 (out of 5) which was relatively high, but individualized teaching behavior which was, a detailed category, turned out to be 3.40. This implicates that junior college teachers lack teaching behavior level in considering individual learner's ability or level. Similarly, a research subjecting 437 junior college teachers on performance level by teaching plan elements of teachers, revealed teacher's performance level by teaching plan elements showing comparatively higher level in aspects of extracting an academic goal suitable to course (4.55 out of 5points), and aspects of selecting core academic contents (4.41). But it had relatively lower score for categories such as distribution of sufficient resources and time (3.91), selection and application of effective teaching materials and media (4.04), and learner analysis (4.13), which were categories related to learner diversity (Na & Kim, 2002).

However, it is hopeful thing to find increasing attention to learner diversity or learner-oriented education in junior college's learning and teaching aspects. Analysis research data on excellent case studies by Korea Research Institute for Vocational Education & Training shows most learning and teaching cases considered being excellent, use methods such as project learning or problem-based learning. These are typical learner-oriented teaching methods (Kim, 2000). On the background of this application of learning and teaching method lies the idea that creation of learner-initiative learning environment supplement learner's basic learning ability or the difference between each

learner. In other words, junior colleges are also giving efforts to consider learner's characteristics and arouse learner's academic motivation and needs, and especially, developing learner-oriented courses by focusing on learner's self-directed learning and carrying out course plan by student levels. In relation to this, Jang and Kwon suggested that creating appropriate teaching method after identifying learner's advanced learning level, and providing learning and teaching method that could complement differences between individual learners would be a way to bring quality improvement in learning and teaching aspect.

4.2. Support conditions for learner diversity in junior colleges

Recent cases show programs directly related to learner diversity such as K University's customized learning program by learner's level (Yeongju Civil Newspaper, 2010). However, discussions on learner diversity in junior colleges have not made enough yet. Furthermore, even though the idea of learner diversity is basically related to learning and teaching strategies or methods, the actual discussion regarding learner diversity in junior colleges so far has been treated in aspects of institutional support rather than those of learning and teaching process. This is due to the smaller importance learner diversity issue has in junior college. However, there are several specific support measures; for example, running programs such as developmental education program in the college teaching and learning center, or operating an exclusive academic advisor system.

Specifically, Kim (2004) conducted a study on developmental education programs in learning and teaching centers at junior colleges. The study reported collective characteristics of students entering junior colleges which are low basic learning ability and increasing ratio of students in need of psycho-emotional support, growing number of adult learners who are out of conventional terms of student age and the need to provide them a program to support their learning. The research also studied references on development education programs ran other countries to draw implications that supplementary lecture programs for basic learning and program for lifetime development are needed. In addition, 'exclusive academic advisor system' adopted in junior colleges is another example of efforts to treat diverse learners. An exclusive academic advisor system is a connective system that guides a student throughout their general college life in studies, welfare, career plan from admission to graduation, and later supports difficulties one will meet in job scenes to nurture them to become a talent which the nation and society demands. These exclusive academic advisor systems are included in general curriculum and given one credit per semester or designated as a required subject (Song & Lee, 2007).

5. Conclusions and Recommendations

5.1. Conclusions

First, learner diversity signifies difference between learners in particular dimensions, and its research has been conducted in aspects of learner and learning and teaching, especially development of strategies or methods for individualized teaching and learning with regard to learner diversity.

Second, junior college learners tend to diversify in aspects of their age, gender, home town and country, household income, learning style, work experience, and career plan. This tendency tends to be continued in the future. This is due to junior colleges running diverse education programs reflecting the changes in education function and keeping a suitable open admission policy. Learner diversity is not limited to individual characteristics, but is regarded to influence learning and teaching conditions. It is because learner's needs could vary by age or gender, language difficulties would occur due to learners' countries of origin and motivation or objective of learning could be different according to household income, career experience or career plan.

Third, junior colleges had a tendency to focus on other support systems rather than the actual lecture conditions to deal with learner diversity or individual variation. But recent findings revealed a new trend to provide methodological support in learning and teaching aspect by discovering and sharing information on recent excellent learning and teaching cases and so on. Nevertheless, awareness of individualization of junior college teachers is found to be lacking while these teachers should take important roles in consideration of diverse learners.

5.2. Recommendations

First, the importance of learner diversity in junior colleges is hidden under discussion on traditional learners which is relatively dominating. Considering open admission policy in junior colleges and development of a life-long learning society, learner diversity in junior colleges is seemed to increase in the future. Thus, a bigger attention on learner diversity in junior colleges is needed.

Second, junior colleges are recognizing increase in learner diversity, but lacks specific and positive discussion. Existing discussions are remaining at the level of treating superficial matters. According to discoveries of this study, learner diversity in junior colleges consists of diversity in culture and learning properties as well as demographic diversity. Therefore, rather than an indefinite assumption, a positive study is necessary and should be followed by development of related learning and teaching strategies.

Third, a focus on teachers as well as learners is necessary in order to treat learner diversity in junior colleges. Emergence of development education program or exclusive academic advisor system along with learner diversity issue in junior colleges is a result of overlooking teacher's role in related learning and teaching conditions. Therefore, improvement in junior college teacher's level of understanding on learner diversity is needed.

Reference

- Byon, J. H., Kim, S. H., & Kim, E. Y. (2008). *A status of vocational career guidance in the junior colleges*. Seoul: Korea Employment Information Service.
- Byon, Y. G. (1999). Principles of an individualized instruction system development. *The Journal, College of Education*, 37, 49-63.
- Center of Excellence For Education and Learner Diversity. (2010). *Center of excellence for education and learner diversity*. Retrieved August 10, 2010, from <http://www.xplorasi.edu.my/CELD2/>
- Choi, K. S. (2010). Factors affecting college students' intention to decide dropout. *Korean Business Review*, 3(1), 96-118.
- Choi, M. J. (2004). Inquiry of meaning on learner-centered instructional design. *Journal of Learner-centered Curriculum and Instruction*, 4, 93-114.
- Dimitrova, M., Sadler, C., Hatzipanagos, S., & Murphy, A. (2003). *Addressing learner diversity by promoting flexibility in e-learning environments*. Paper presented at 14th International Workshop on Database and Expert Systems Applications.
- Howard, G. R. (2007). As diversity grows, so must we. *Educational Leadership*, 64(6), 16-22.
- Hwang, S. J. (2001). *A comparison of Junior College Students' learning styles according to the major field*. Master's thesis, Seoul National University, Seoul, South Korea.
- Jang, M. H., & Kwon, S. Y. (2007). Analyzing the good practices of instruction and learning in vocational college. *Journal of Vocational Education*, 26(1), 158-179.
- Jonassen, D. H., & Grabowski, B. L. (1993). *Handbook of individual differences, learning, and instruction*. New Jersey: Lawrence Erlbaum Associates, Inc.
- Jung, T. W., Lee, G. S., Lee, J. P., & Hong, S. Y. (2000). *Human resource development through diversification of vocational education*. Seoul: Korea Research Institute for Vocational Education & Training.
- Kang, I., Choi, J., & Chang, K. (2007). Constructivism research in educational technology: A retrospective view and future perspectives. *Asia Pacific Education Review*, 8(3), 321-334.
- Kang, J. E. (2008). *The Influence of Career Barrier, Psychological Separation and Career Decision-Making Self-Efficacy on Career Decision Level and Career Preparation Behavior : Comparison between the 4-year female college students and the 2-year female college students*. Master's thesis, Sookmyung Women's University, Seoul, South Korea.
- Keefe, J. W., & Jenkins, J. M. (2008). *Personalized instruction: The key to student achievement*. Lanham, Maryland: Rowhan & Littlefield Education.
- Kim, J. H. (2010). *The Effects and its management plans of perceived family functions and self-esteem on Job search Behaviors : Focusing on Junior college students*. Master's thesis, Sangmyung University, Seoul, South Korea.
- Kim, K. Y. (2010). *The hierarchical linear relationship among teaching behaviors, professor-student characteristics, instructional contexts, and organizational characteristics in junior colleges*. Doctoral dissertation, Seoul National University, Seoul, South Korea.
- Kim, M. C. (2003). *The study on junior college students' adaptation to their college lives*. Master's thesis, Hongik University, Seoul, South Korea.
- Kim, S. G. (2004). A study on the operation of development education program through the teaching-learning center in the college. *The Journal of Korean Teacher Education*, 21(2), 169-185.
- Kim, S. H. (2000). Constructivism approach for practical improvement of vocational education in junior colleges. *Andragogy Today : International Journal of Adult & Continuing Education*, 3(3), 99-126.

- Ko, J. K. (1998). A study for development of individualized instruction program focused on self-directed learning. *Collection of Articles of Dae-Kyoung Colleges*, 7, 119-143.
- Korean Council for University College Education. (2007). *Educational index of junior colleges in South Korea*. Seoul: Author.
- Korean Council for University College Education. (2008). *Educational index of junior colleges in South Korea*. Seoul: Author.
- Korean Council for University College Education. (2009). *Educational index of junior colleges in South Korea*. Seoul: Author.
- Korea Research Institute for Vocational Education & Training. (2009). *2009 HRD index of South Korea*. Seoul: Author.
- Yongju civil newspaper. (2010. 3. 10). *Operation of individualized teaching program in Kyoungbuk junior colleges*.
- Lee, K. U., Kwon, J. L., & Oh, S. C. (2008). *Supporting plans for individualized learning in classrooms*. Seoul: Korea Institute for Curriculum and Evaluation.
- Lopez, O. S. (2007). Classroom diversification: A strategic view of educational productivity. *Review of Educational Research*, 77(1), 28-80.
- Moon, H. J., Kim, K. W., Kim, J., Kim, J. S., & Shin, B. S. (2001). *Development and operation of various educational programs of junior colleges*. Seoul: Korean Council for University College Education.
- Moon, H. J., Oh, M. D., Jung, M. H., Choi, I. K., Kim, J. H., & Lim, S. G. (2005). *Learners' satisfaction with the whole education of junior colleges*. Seoul: Korean Council for University College Education.
- Na, S. I., & Kim, J. S. (2008). The present and perceived performance levels of faculty on competences for instructional design and implementation in the junior colleges. *The Journal of Agricultural Education and Human Resource Development*, 34(2), 61-86.
- Park, S. I. (2008). Retrospect and prospect of "individualized Learning". *The Korean Journal of Educational Methodology Studies*, 20(1), 1-22.
- Santagelo, T., & Tomlinson, C. A. (2009). The application of differentiated instruction in postsecondary environment: Benefits, challenges and future directions. *International Journal of Teaching and Learning in Higher Education*, 20(3), 307-323.
- Shin, B. S. (2001). Development instruction assessment tool by student in junior colleges. *The Journal of Educational Research & Development*, 22(2), 103-118.
- Smith, S.G., Ewing, R., Le Cornu, R., 2007). *Teaching Challenges and Dilemmas* (Chapter 3). South Melbourne, Australia: Thomson
- Song, C. B., & Lee, G. W. (2007). Exploring vitalization of professor system with the whole responsibility for learners in junior colleges. *Collection of Articles of Kyoungbuk Colleges*, 25(1), 137-155.
- Tomlinson, C. A. (1999). Mapping a route toward differentiated instruction. *Educational Leadership*, 57(1), 12-16.
- Yoon, M. S. (2008). Understanding Individual Differences in School Learning. *The Korean Journal of Educational Methodology Studies*, 20(1), 23-47.
- Yoon, Y. S., Lee, H. W., Baek, H. C., Park, J. G., & Choi, S. G. (2005). *A study for practical innovation of education in junior colleges*. Seoul: Korean Council for University College Education.